

REMARKS

Summary of Amendments and Status of Claims

Claims 10, 12, 13 and 14 been rewritten in independent form to include all of the limitations of their base claim, independent claim 43, and any intervening dependent claims.

Claim 43 has been amended to more distinctly make clear that the claim is direct to statutory subject matter.

- Claims 7-19 and 43-46 remain pending.

No substantive amendments have been made such as would raise new issues or require further consideration. While it is believed thus that *further* consideration is not necessary to resolve the prosecution of the instant application, based on the arguments below, reconsideration of the patentable merits of claim 43 is respect fully requested.

Claim Rejections – 35 U.S.C. § 101

Claim 43 was rejected as allegedly being directed to non-statutory subject matter. The statement of rejection cites claim 43 in its entirety, then adds,

[to the Examiner's] best understanding of the invention, [the] surface [recited in claim 43] could be a paper or document with a barcode. The claims appears to be defining an arrangement of data, absent any physical substrate or relationship with a physical substrate, and does not define any structural and functional relationships.

It is, in the first place, respectfully pointed out that the surface recited in claim 43 could indeed be "a paper or document with a barcode," but that is not to say that the present invention is *itself* a barcode in any conventional sense of the term "barcode" whatsoever. A barcode could be present on Applicant's claimed graphical-object bearing surface, just as any other visually recognizable printed content may underlie the especially patterned graphical objects that are an essential constituent of the invention recited in claim 43. Indeed, one of the many possible functions of Applicant's claimed graphical-object bearing surface is to identify the location on that surface of a given item of visually recognizable printed content.

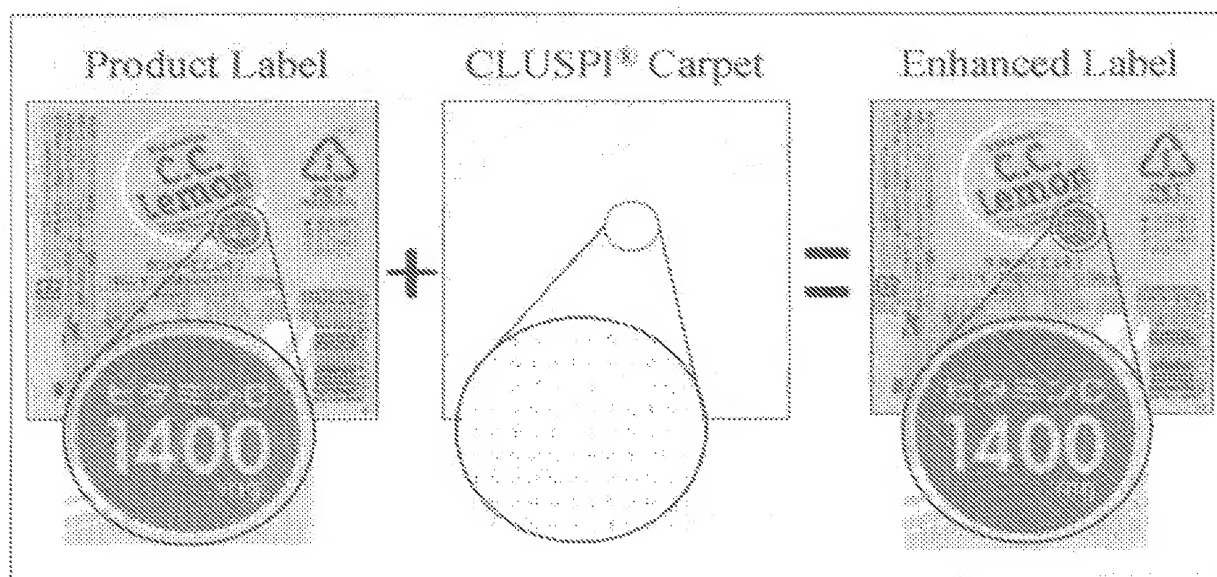
It is next pointed out that claim 43 does *not* define an arrangement of data. The Office's position appears to be that Applicant is attempting to claim some sort of abstract mathematical array or matrix, but that is simply not the case. Claim 43 recites a physical surface that bears graphical objects "patterned so as to predetermine groupings thereof that interrelate by a clustering definition." While the

clustering definition itself is conceptual, so is any patterning criterion: No pattern recognizable as such to an intelligent man or machine can exist without criteria that establish the patterning arrangement.

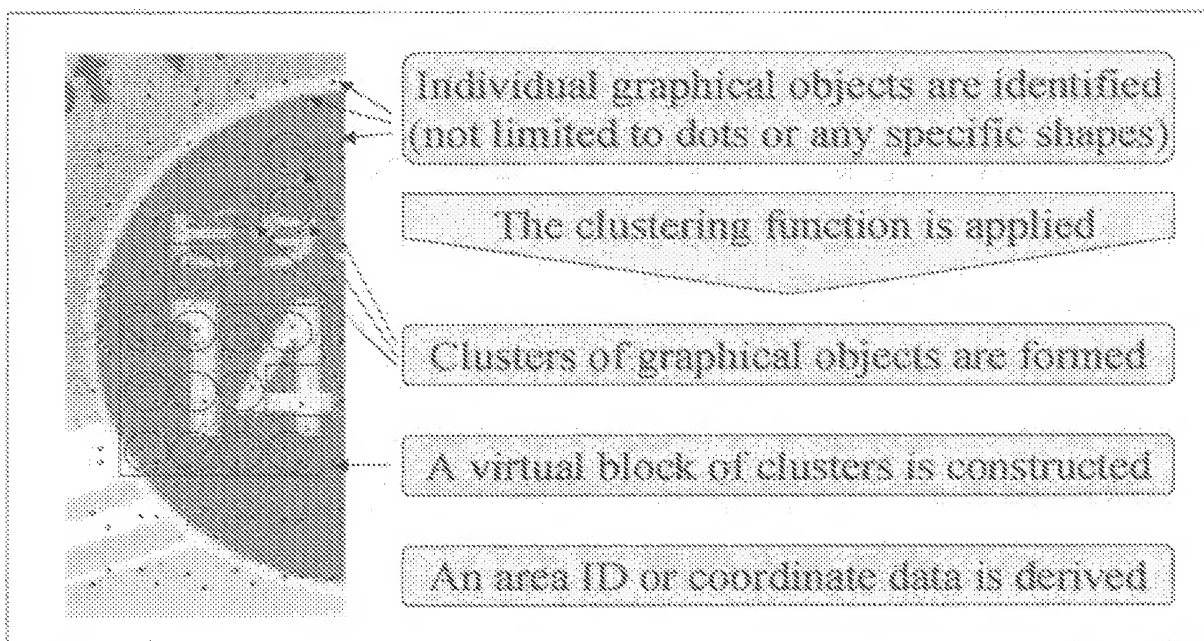
And the graphical objects that claim 43 recites and that make the physical surface that is the subject matter of claim 43 unique do indeed bear a relationship with that physical surface: As the claim recites, the surface *bears* the graphical objects. The graphical objects are patterned in a way that has never before existed, in that—to paraphrase the language of claim 43—the unique patterning predetermines special groupings of the graphical objects, and those groupings interrelate according to a clustering definition. The clustering definition establishes clusters of the graphical objects, and in thus establishing clusters of the graphical objects, the special groupings, determined by the way in which the graphical objects are patterned, encode primary information. And that primary information at least identifies the placement of the graphical-object clusters within the entire pattern of said graphical objects on said surface.

Thus, each graphical-object cluster identifies its own position in relation to every other cluster—and thus in relation to graphical-object bearing surface as a whole—without requiring that the data-capturing means that recognizes that cluster be positioned in a fixed location on the surface or otherwise in a location previously identified to the data-capturing means.

Below are illustrations of the subject matter of claim 43, in an actual embodiment prepared by Applicant and disclosed in a promotional publication following the filing date of the present application.



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As should be abundantly clear from the foregoing explanation and illustrations, Applicant's invention as recited in claim 43 a unique physical surface specially conditioned by bearing graphical objects in an unprecedented manner of patterning, and not only is that patterning is independent of conventional barcodes, but may even overlie conventional barcodes.

Moreover, it is respectfully submitted that to reject claim 43 as being non-statutory would be much like denying the inventors of the compact optical storage disk the various claims to their invention that were in fact allowed by the Office.

For example, claim 1 in U.S. Pat. No. 4,094,013 recites little more than arrangements of "data storage sectors," "guide sectors" and "guide segments" in a disk-shaped storage medium. And U.S. Pat. No. 4,084,185, recites "an optically readable record carrier" comprising "areas of a first type serially arranged along elongated path sections, and areas of a second type serially arranged along similarly oriented further elongated path sections, and regions aligned with both types of said path sections between each area of both said first and second types of areas," and special "periodic gratings" arranged in and with respect to the in the first and second type of areas and the path sections.

The Office rejecting claim 43 as being non-statutory would thus seem to be inconsistent with its having allowed such claims as just referred to.

Accordingly, for the foregoing reasons, it is believed that the § 101 rejection of claim 43 is improper and that the rejection has by the foregoing arguments been overcome.

Claim Rejections – 35 U.S.C. § 102

Claims 43 and 7-8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. App. No. 6,418,244 to Zhou et al.

The fact claims are being rejected over one of the many references cited by Applicant in the background section of the specification for the instant application strongly suggest a lack of apprehension of critically distinguishing features of the present invention.

Zhou et al. is directed to barcodes; as has been shown in the foregoing in addressing the § 102 rejection, the subject matter of the present invention is quite distinct from barcodes. As described in the paragraph beginning in line 59 of column 6, *Zhou et al.* requires "anchor bits" or, alternatively, a pixel based two-dimensional bitmap

One- and two-dimensional barcodes are absolute-position-dependent—a limitation that the present invention overcomes. A barcode carries in itself the information that is its purpose to provide. Graphical-object clusters according to the present invention need not store such information in the clusters themselves, but nonetheless provide information (primary information) as to their relative location on the graphical-object bearing surface.

A barcode provides no information about its own position; it demands information about its own position. A barcode does not teach anything as to its position relative to the object on which it appears; a barcode demands of the scanning device that its position be identified. Graphical-object clusters according to the present invention, via a predetermined minimum field-of-view (viewport), provide coordinate information on where the CCD or other data-capturing device is relative to the entire encoded surface—indeed, the clusters could identify a barcode's position relative to the rest of the object on which the barcode appears.

Furthermore, Graphical-object clusters according to the present invention enable robust data recovery impossible with barcodes such as in *Zhou et al.*

It is respectfully submitted that for the foregoing reasons claims 43 and 7-8 are patentably distinct over *Zhou et al.*

Claim Rejections – 35 U.S.C. § 103

Claims 9, 11 and 44-46: *Zhou et al.* ' 244 in view of Kuwana '197

Claim 9, 11 and 44-46 were rejected as being unpatentable over *Zhou et al.* in view of U.S. Pat. No. 5,138,197 to Kuwana.

It is respectfully submitted that for the foregoing reasons the patentability of the present application rests in claim 43 to begin with, and thus also in the remaining the claims rejected under this section of the Office action.

Conclusion

Accordingly, it is believed that the rejections have been overcome and thus that the issues impeding allowance of this application have been resolved. Nonetheless, if despite Applicant's thus having made their best attempt to advance the prosecution of this case the Office finds that there are issues still standing in the way of allowance, the Examiner is courteously urged to contact Applicant's undersigned representative at an early date, for the sake of resolving any such issues so as to avert further rejection of the pending claims.

Respectfully submitted,

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